Work Order ID 9 Wednesday, April 10, 2013				Page 1						
Item ID: D3049-1 Revision ID: Item Name: Bearpaw			*N900040100* Setup Start Stop							
Start Date: 4/10/2013 Required Date: 4/26/2013 Reference:		* 7		Cust Item ID: Customer:				Stop	*N:	S2*
Approvals: Process	Plan: MVC	Date: 13-4-10	Tooling:	Date		_		Start	*N	R1*
QC:		Date:	SPC (Y/N):	Date				Stop	*N	R2*
Sequence ID/ Work Center ID	Operation Description	2	Set Up/ Run Hou		Fool # Plan Code	-	t Rejec		Reject Number	Insp. Stamp
Draw Nbr R	levision Nbr					<u> </u>				
D3049 R	ev A1									
*110 *110* Waterjet FLOW CNC Waterjet	Memo CUT BLA	ANK AS PER FILE D3049-1	0.00 0.00 BLANK			8		3		Jn13-4-1
UHMW 1.00"										
*120 *120 *HAAS 1 HAAS CNC vertical machine #1	HAAS CNC VERTICA Memo 1-Inspect: 2-Machine 3-Deburr	AL MACHINING #1 material for defects or damage e as per Folio FA165 and Dwg	0.00 prior to machining	B.a 2013-04-21 g D3049-1		_8_	¢	<u>}</u>		
130 *130* QC	QC2- Inspect parts off Memo	machine FAI/FAIB	0.00	Fe/ba 2013-04-2	· :	8	· <u></u>			
Quality Control	Wichit									

										DQA:	Date:	
NCR: Y	es / No				WORK ORDER NON-C	100	VFOR	MANCE / UP	DATE	QA Closed:	 Date:	
					DISPOSITION				AGAINST DE			
Work Orde	r:					,			·	1	-	,
Part N					Rework Scrap Use-as-is	Skid-tube Crosstube Machining Small Fab Thermoforming Finishing			4	Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other	
NCR N	lo				Work Order Update]	,	Large Fab	Composite	1	Supplier	
Root				Descri	ption of work order update		nitial	Act	tion	Sign &		
Cause	Date	Step	Qty	(or Non-conformance	Ch	ief Eng	Desci	ription	Date	Verification	QC Inspector
Doc/Data												
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Operator		1										
Material												
Setup	_	Ì			•							
Other												
Process	_			i								
Supplier												·
Training	_						•					:
Unapproved		<u> </u>					T 64T6					
						AUL	T CATE	GURY				
Landir	ng Gear				General Bend		Grain			Ovalized		Pressure/Forced
· •	Bending Centre N	at Canca	atric to 1	~/s	BOM/Route		Hardwa	ro	 	Over/Under	tolerance	Temperature/Cure
	Cracks	or concei	יטו אווונינטי	^{3/3}	4	\vdash		on Incomplete	 	Part Incorred		Weld
	— 1	Crimped	Broken/Damaged		-	\vdash	· '	ions Incomplete/l	Inclear	Part Lost/Mi	 	Wrong Stock Pulled
	Crushed/Crimped Burrs Cuffs Contamination		-	Mainte	•	- Increase	Part Moved	331116	Total of Stock I diled			
	Heat Tre	at		—	Countersink	\vdash	Mislabe			Positioned V	Vrong	
	Inspection		Tube	-	Cut Too Short	<u></u>	Misread			Power Loss/	_	Other
	—	-	TUDE		Drill Holes	Offset						
	Ripples in Bend Drill Holes Torque Waves in Extrusion Drawing			Out of Calibration								

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Ordo Wednesday, Apr			·	*992	195*			- 4	Page 2
Item ID: Revision ID: Item Name:	D3049-1 Bearpaw			Accept	*N900040	100*	Setup	Start Stop	*NS1* *NS2*
Start Date: Required Date: Reference:	4/10/2013 4/26/2013	Start Qty: 8.00 Req'd Qty: 8.00	* <u>*</u> **	·	Cust Item ID: Customer:				
Approvals:		an:	Date:		Date:		Run	Start Stop	*NR1* *NR2*
Sequence ID/ Work Center II 140 *140 *QC Quality Control		Operation Description QC8- Inspect parts - seco		Run Hours	Tool ID Tool #	Plan Acce Code Qty	pt Rej Qty		Reject Insp. Number Stamp
170 *170* Packaging Packaging		Identify as per dwg & Sto Packaging Memo	ck Location:	0.00 0.00 PPP 9	- 9494 8x .	8x	<u>.</u>		13-4-2S
180 *180* QC Quality Control		QC21- Final Inspection -	Work Order Release	0.00		· · · · · · · · · · · · · · · · · · ·	2	ols	lc 40

pl 13-0424

NCR: Y	es / No				WORK ORDER NON-O	ONFORM	MANCE / UF	PDATE	DQA:	Date:	•
TTCIN.					- TONK ONDER HON C				QA Closed:	Date:	
Work Orde	<u>.</u> .				DISPOSITION			AGAINST DE	PARTMENT	/PROCESS	
Part N					Rework Scrap Use-as-is		Skid-tube Machining noforming	Crosstube Small Fab Finishing		Water Jet d. Eng. Coor.	Engineering Quality Other
NCR N	lo				Work Order Update		Large Fab	Composite	•	Supplier	
Root				Descri	ption of work order update	Initial	Α	ction	Sign &		
Cause	Date	Step	Qty	(or Non-conformance	Chief Eng	Des	cription	Date	Verification	QC Inspector
Doc/Data						_					
Equip/Tooling											
Operator											
Material											
Setup]									
Other											
Process		İ									
Supplier											
Training											•
Unapproved			<u> </u>								
					FA	AULT CATE	GORY				

Landing (Gear	General			_	_	_
	Bending	Bend		Grain	 Ovalized		Pressure/Forced
	Centre Not Concentric to O/S	BOM/Route		Hardware	Over/Under tolerance		Temperature/Cure
	Cracks	Broken/Damaged	Г	Inspection Incomplete	Part Incorrect		Weld
	Crushed/Crimped	Burrs		Instructions Incomplete/Unclear	Part Lost/Missing		Wrong Stock Pulled
	Cuffs	Contamination		Maintenance	Part Moved		
	Heat Treat	Countersink		Mislabeled	Positioned Wrong		_
	Inspection Strip in Tube	Cut Too Short		Misread	Power Loss/Surge		Other
	Ripples in Bend	Drill Holes		Offset			
	Torque Waves in Extrusion	Drawing		Out of Calibration			
	Turning Sequence	Finish		Out of Sequence			

Outside Dimensions

Wave/Twist in Tube

Page 1

Work Order ID:

99495

Parent Item:

D3049-1

Parent Item Name:

Bearpaw

Start Date: 4/10/2013

Required Date: 4/26/2013

Start Qty: 8.00

Required Qty: 8.00

Comments:

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MUHMWB10		Purchased	No			120	sf	1,262.0550	3.4	27.2-			——— ·
UHMW 1" Black								,_,_,	=	30			Jm13-4

<u>Location</u>	Loc Qty	Loc Code	
MAT019	1262.054989		
121278 _{. zi K}	12.0949895		
121278 122575	47.6	***	. <u>' </u>
123229	53		
123704	63.8		
123949	6.96		
124382	301		124382
124758	377.6		
Sending -> 125137	400		
ر بیما			

bout to

50pplier

										DQA:	Dat	te:	
NCR: Y	es / No			1	WORK ORDER NON-C	ON	NFORI	MANCE / UP	DATE	QA Closed:	 Dat	te.	
					DISPOSITION				AGAINST DE				
Work Orde	er:				Rework	,		Skid-tube	Crosstube	1	Water Jet	\neg	Engineering
Part N	lo			· · · · · · · · · · · · · · · · · · ·	Scrap		1	Machining	Small Fab	4	d. Eng. Coor.		Quality
NCR N	lo				Use-as-is Work Order Update			noforming Large Fab	Finishing Composite	Rec/Sto	re/Packaging Supplier		Other
Root				Descri	ption of work order update		nitial	. Ac	ction	Sign &	<u> </u>		
Cause	Date	Step	Qty	(or Non-conformance	Ch	ief Eng	Desc	cription	Date	Verification	1	QC Inspector
Doc/Data													
Equip/Tooling													
Operator												Í	
Material					•								
Setup													
Other		ļ ·		,									
Process													
Supplier													
Training												ŀ	•
Unapproved													
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Landi	ng Gear				General					_		_	
	Bending	5 ,			Bend	Ш	Grain			Ovalized	1	_	ressure/Forced
	Centre	Not Conce	ntric to	o/s	BOM/Route		Hardwa	ire		Over/Under	tolerance	T	emperature/Cure
	Cracks			<u> </u>	Broken/Damaged	Ш	inspect	ion Incomplete		Part Incorre	ct		Veld
	Crushed	d/Crimped			Burrs		Instruct	ions Incomplete/	/Unclear	Part Lost/Mi	ssing		Vrong Stock Pulled
;	Cuffs				Contamination	Щ	Mainte	enance		Part Moved			
	Heat Tr	eat			Countersink		Mislabe	eled	<u></u>	Positioned V	· ·		
	Inspect	on Strip ir	1 Tube		Cut Too Short		Misread	t		Power Loss/	Surge	0	ther
	Ripples	in Bend			Drill Holes		Offset						
Torque Waves in Extrusion Drawing			Out of Calibration										

Out of Sequence

Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Turning Sequence

Wave/Twist in Tube

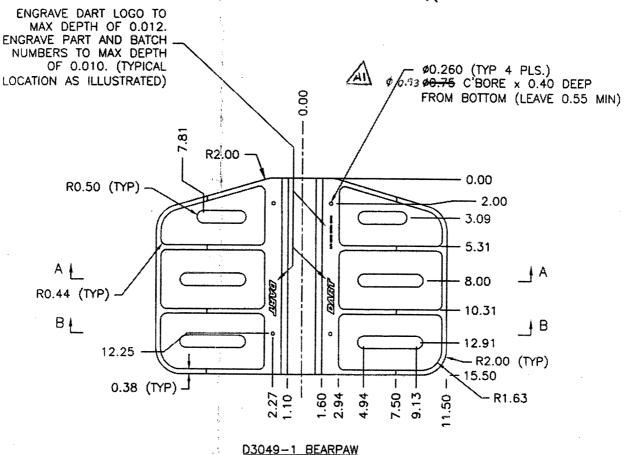
Finish





DESIG	KT .	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		
CHEC	KED	APPROVED	DRAWING NO.	REV.	A
	ग	#	D3049 SHEET	1 OF	2
DATE			TILE	SCA	LE
01 1	10.18		BEARPAW	. 1	1:7
Α		01.10.18	NEW ISSUE		Manage
AI	#7	₹ 03.01.13	\$0.93 WAS \$0.75	····	

RELEASED



NOTES:

- 1) BEARPAW IS SYMMETRIC ABOUT CENTER LINE
- 2) MATERIAL: UHMW BLACK PER SPEC CONTROL DRAWING D2689, 1.00" THICK (MACHINE TO 0.950)

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										DQA:	Da	te: ַ	
NCR: Y	es / N	o			WORK ORDER NON-C	O	NFORI	MANCE / UP	DATE	QA Closed:		to·	
	·		 		DISPOSITION				AGAINST DE			ie.	
Work Orde	er:			. بر	DISPOSITION	.		_	AGAINSI DI				·
Part N					Rework Scrap Use-as-is Work Order Update		Thern	Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite	- 4	Water Jet d. Eng. Coor. re/Packaging Supplier		Engineering Quality Other
Root			1	Descri	ption of work order update	<u>_</u> [I Initial	Ac	tion	Sign &			
Cause	Dat	e Step	Qty		or Non-conformance		ief Eng		ription	Date	Verificatio	n	QC Inspector
Doc/Data													
Equip/Tooling						Ì				:			
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Landi	ng Gear				General	_	-		_	-			•
	Bendi	ng			Bend		Grain			Ovalized			Pressure/Forced
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	Crack	5			Broken/Damaged	L	Inspecti	ion Incomplete		Part Incorre	ct		Weld
	Crush	ed/Crimped	d		Burrs		Instruct	ions Incomplete/	'Unclear	Part Lost/M	•		Wrong Stock Pulled
	Cuffs				Contamination		Mainte	enance	L	Part Moved			
	Heat Treat Countersink				Mislabeled			Positioned \	-				
	Inspe	ction Strip i	n Tube		Cut Too Short	Misread Power Loss/			'Surge	oxdot	Other		
	Ripple	Inspection Strip in Tube Cut Too Short Ripples in Bend Drill Holes					Offset						

Out of Calibration

Out of Sequence

Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Turning Sequence

Wave/Twist in Tube

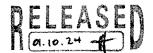
Torque Waves in Extrusion

Drawing

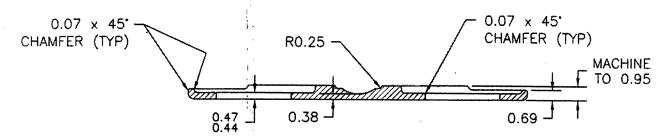
Finish



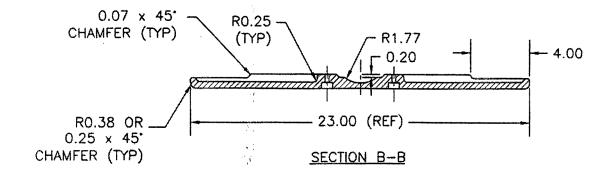
DESIGN RF	DRAWN BY		OSPACE LTD ONTARIO, CANADA
CHECKED	APPROVED -	DRAWING NO. D3049	REV. A SHEET 2 OF 2
DATE		TITLE TO THE	SCALE
01.10.18		BEARPAW	1:6



99495



SECTION A-A



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									DQA:	Date:	
NCR: Ye	es / No				WORK ORDER NON-G	CONFOR	MANCE / UP		QA Closed:		
Work Order	·-				DISPOSITION			AGAINST DE	PARTMENT,	/PROCESS	
Part No					Rework Skid-tube Crosstube Water Jet Machining Small Fab Prod. Eng. Coor. Thermoforming Finishing Rec/Store/Packaging Supplier					Engineering Quality	
NCR No	0	<u>-</u>			-	Therm	· ·	_ <u>_</u>	Rec/Sto		Other
Root				Descri	ption of work order update	Initial	Ac	ction	Sign &		
Cause	Date	Step	Qty	(or Non-conformance	Chief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data							•				
quip/Tooling]					,				•
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Material		ļ					İ	·			
Setup											
Other											
Process		ļ									
Supplier											ı
Training		,									
Unapproved						·.				,	

General **Landing Gear** Pressure/Forced Bend Grain Ovalized Bending Temperature/Cure BOM/Route Over/Under tolerance Centre Not Concentric to O/S Hardware Weld Broken/Damaged Part Incorrect Cracks Inspection Incomplete Part Lost/Missing Wrong Stock Pulled Burrs Instructions Incomplete/Unclear Crushed/Crimped Mäintenance Part Moved Contamination Cuffs Mislabeled Positioned Wrong Countersink Heat Treat Other Power Loss/Surge Inspection Strip in Tube Misread Cut Too Short Offset Ripples in Bend Drill Holes Out of Calibration Torque Waves in Extrusion Drawing Out of Sequence Turning Sequence Finish Folio Outside Dimensions Wave/Twist in Tube

FAULT CATEGORY

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

DART AEROSPACE LTD	Work Order:	99 495 D3049-1	
Description: Bearpaw	Part Number:		
Inspection Dwg: D3049 Rev: A1		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

X First Article Prototype

	pection Sheet ving Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Α	Ø0.260	+0.005/-0.000	0.260	/		Cal	JFC-0)
В	0.93	+/-0.030	0.930	/		1,	11
С	0.40	+0.030/-0.000	0.404			clepthG	0 Fc-07
D	2.00	+/-0.030	2.005	V.		al	Steol
E	10.250	+/-0.010	10.256			. 11	CNC-02
F	4.540	+/-0.030	4.542			1,	OFC-01
G	5.88	+/-0.030	5.818			VI.	Ofe-01
Н	0.38	+/-0.030	0.378			١.(OFC-01
1	11.50	+/-0.030	11.50	V .		TAPE	JFC-06
J	0.07 x 45°	+0.030/-0.010	0.063			and	SFC-01
ĸ	0.44 - 0.47	+/-0.000	0.462			1.	
L	R0.25	+/-0.030	R0.250				
M	0.38	+/-0.010	0.385	✓			
N	0.95	+0.030/-0.010	0.965				
0	0.69	+/-0.030	0.700				
Р	0.20	+/-0.030	Ø,300	V,			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Q	23.00	+/-0.030	23.00		-	TAPE	Stevio
R	0.25 x 45°	+/-0.030	0.225	/			
						·	

Measured by: Ofe b.a	Audited by:	and.	Prototype Approval:	N/A
Date: 00304-21	Date:	13/04/22	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	03.09.22	New Issue P/O D135-692-011	KJ/RF	
В	08.05.06	Dimension I revised	KJ/DD	1/2
			<u> </u>	

											DQA	: Date:	
NCR:	res /	No				WORK ORDER NON-C	CON	FORI	MANCE / UP	DATE			
											QA Closed	: Date:	
Monte Ondon				DISPOSITION			AGAINST D	AGAINST DEPARTMENT/PROCESS					
Work Order: Part No. NCR No.			Rework Scrap Use-as-is Work Order Update			Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite	_	Water Jet od. Eng. Coor ore/Packaging Supplier	Engineering Quality Other			
Root					Descri	ption of work order update	In	itial	. Ac	tion	Sign &		
Cause	Da	ate	Step	Qty	(or Non-conformance	Chie	ef Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data													
Equip/Tooling							ł		1				
Operator													
Material												•	
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Other						,							
Process											1		
Supplier													
Training							1						
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						F/	AULT	CATE	GORY		······		
Landi	ng Gear					General				_	_		-
	Bending				Bend Grair		Grain		L	Ovalized		Pressure/Forced	
	Centre Not Concentric to O/S				o/s	BOM/Route Hardware				Over/Unde	r tolerance 💹	Temperature/Cure	
	Cracks					roken/Damaged Inspection Incomplete				Part Incorr	ect	Weld	

Instructions Incomplete/Unclear

Maintenance

Out of Calibration

Out of Sequence

Outside Dimensions

Mislabeled

Misread

Offset

Wrong Stock Pulled

Other

Part Lost/Missing

Positioned Wrong

Power Loss/Surge

Part Moved

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Crushed/Crimped

Inspection Strip in Tube

Torque Waves in Extrusion

Cuffs

Heat Treat

Burrs

Contamination

Countersink

Cut Too Short

Drill Holes

Drawing

Finish Folio